In reply thereto, Applicant would like to first direct the Examiner's attention to the description of the related art in Applicant's application and respectfully submits that as oscillators have become smaller and smaller, they have been converted into integrated circuit devices. As the control element MOS construction-type capacitance element has been utilized. However, the utilization of such an MOS device or element has introduced several complications as is stated in Applicant's Description of the Related Art. In particular, the construction is complicated because a positive and a negative voltage must be applied to the MOS capacitance element in order to vary the capacitance. It is an object of Applicant's invention as claimed by claims 1, 2 and 4 to eliminate this requirement of a positive and negative voltage source.

With the above in mind, Applicant has carefully reviewed Ochiai et al. and respectfully submits that Ochiai et al. relates to a frequency temperature compensated circuit for a quartz oscillator and discloses an integrated piezoelectric oscillator that may include an inverter 13, a MOS variable capacitor 14, capacitors 15 and 18 and a crystal oscillator 17. However, as is shown in Fig. 1 of Ochiai et al., a direct current voltage DC from the power source voltage VDD is applied to a capacitance terminal TC of the MOS variable capacitor 14, an alternating current voltage AC is connected to the capacitance terminal TC from the connecting point of the crystal oscillator 17 and inverter 13 via a capacitor 18 and an injection voltage of positive or negative value is supplied to the injection terminal TI of the MOS variable capacitor 14. As a result of this construction, Applicant respectfully submits that Ochiai et al. requires that the MOS construction-type capacitance element be controlled utilizing positive and negative voltages.

In contrast to Ochiai et al., Applicant respectfully submits that Applicant's invention does not require the utilization of positive and negative voltages to be applied to the MOS construction-type capacitance element and only requires that the control voltage be of the same polarity as the bias voltage. Accordingly, Applicant's invention only requires a single polarity voltage source and does not require both a positive and negative.

In view of the above, therefore, Applicant respectfully submits that Ochiai et al. does not disclose each and every element of Applicant's invention. Therefore, Applicant respectfully submits that claims 1, 2 and 4 are not anticipated by Ochiai et al.

Applicant acknowledges the Examiner's statement that claims 3, 5 and 6 are allowed and Applicant accepts these allowed claims.

Attached hereto is a marked-up version of the changes made to the specification, abstract and claims by the current amendment. The attached page is captioned "Version with markings to show changes made."

In view of the above, therefore, it is respectfully requested that this Amendment be entered, favorably considered and the case passed to issue.

Please charge any additional costs incurred by or in order to implement this Amendment or required by any requests for extensions of time to KODA & ANDROLIA DEPOSIT ACCOUNT NO. 11-1445.

Respectfully submitted,

KODA & ANDROLIA

By: _____
William L. Androlia
Reg. No. 27,177

2029 Century Park East
Suite 3850
Los Angeles, CA 90067
Tel: (310) 277-1391
Fax: (310) 277-4118

Certificate of Transmission

I hereby certify that this correspondence is being facsimile transmitted to the Patent and Trademark Office Fax No. (703) 872-9318 on January 21, 2003.

William L. Androlia
Name

_____ 1/21/2003
Signature Date

Application No. 09/679,984

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Please amend claim 1 (amended) as follows:

1. (Twice Amended) A piezoelectric oscillator, wherein, in an oscillator including a piezoelectric resonator, an amplifier, and a variable-capacitance element, the variable-capacitance element is a MOS construction type capacitance element, one terminal of the MOS construction type capacitance element is applied with an alternating current voltage, whose intermediate voltage is a V voltage, and the other terminal of the MOS construction type capacitance element is applied with a control voltage [falling] within a range whose intermediate value is the V voltage and of a same polarity of the V voltage.

Please amend claim 2 (amended) as follows:

2. (Twice Amended) A piezoelectric oscillator, wherein, in an inverter piezoelectric oscillator in which a piezoelectric resonator is connected between an input terminal and an output terminal of an inverter amplifier; and divisional capacitors C1 and C2 are connected between respective ends of the piezoelectric resonator and the ground, and wherein by inserting a MOS construction type capacitance element in series with the piezoelectric resonator, one end of the MOS construction type capacitance element is applied with a bias voltage which is the V voltage at an output end or input end of the inverter amplifier and the other end of the MOS construction type capacitance element is supplied with a control voltage that varies within a range whose intermediate value is the V voltage and of a same polarity as the V voltage.

Please amend claim 4 (amended) as follows:

4. (Twice Amended) A piezoelectric oscillator, wherein, in an inverter oscillator in which a piezoelectric element is connected to an input or output end of an inverter amplifier; and divisional capacitors C1 and C2 are connected between respective ends of the piezoelectric element and the ground, and wherein a MOS construction type capacitance element is inserted between the piezoelectric [resonator] element and an input end of the inverter amplifier or

between the piezoelectric [resonator] element and an output end of the inverter amplifier; a control voltage Vcont is applied to the terminal on a connection-to-piezoelectric [resonator] element side of the MOS construction type capacitance element; and, when it is assumed that V represents the voltage that is a direct current bias voltage at the input end or output end of the inverter amplifier and that is applied to one end of the MOS construction type capacitance element, it is arranged that said voltage becomes an intermediate voltage of the control voltage Vcont and of a same polarity as the control voltage Vcont.